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THE STATUS OF MERRIAM'S SHREW (*Sorex merriami*)

BY HARTLEY H. T. JACKSON

There is so little generally known about the shrews *Sorex merriami* Dobson and *Sorex leucogenys* Osgood, that a brief summary of our present knowledge of these two forms might not be amiss and might stimulate men doing zoological field work to make a special effort to secure more of these rare mammals and learn something of their habits.

Once one has become familiar with these two shrews they are comparatively easily distinguished from other forms. In size they are somewhat larger than individuals of *Sorex personatus*, rather pale (a grayish drab above), and with distinctly whitish underparts and feet. The skull is relatively short and broad, flattened through the braincase but relatively high and swollen interorbitally, with a short, broad rostrum, which, compared with that of other members of the genus found within its geographic range, is abruptly truncate anteriorly (nares region). The third upper unicuspidate tooth of most of the west American shrews is smaller than the fourth. Exceptions to this are found in *Sorex personatus* and *Sorex richardsonii*, both species which may possibly occur within certain parts of the geographic range of shrews of the *merriami* type, and, like them, have the third upper unicuspid larger than or, infrequently in *personatus*, equal to the fourth. Both *merriami* and *leucogenys*, however, have the unicuspid relatively narrow and elongate, and tending to be more crowded together than in *personatus* or *richardsonii*. A glance at the accompanying figures will enable one to grasp some of the differences in the rostra and dentition. In the scanty material available there appears no difference in color between *merriami* and *leucogenys*. The latter, however, is slightly larger than *merriami* and shows cranial differences in being distinctly higher through the braincase and having the anterior halves of the unicuspidate tooth rows less approximated and less nearly parallel.

The type-specimen, an adult female, skin and skull in good condition, is the only known specimen of *Sorex leucogenys*. It was caught August 12, 1908, about 200 yards from running water on a dry rocky Upper Sonoran slope, where the vegetation was scant and practically restricted to *Juniperus*, *Artemisia*, and *Atriplex*, about 3 miles east of Beaver, Beaver County, Utah (Osgood, W. H., Proc. Biol. Soc. Washington, vol. 22, p. 52, April 17, 1909).

The type-specimen of *Sorex merriami* is an alcoholic with skull removed. The skull is practically perfect. It was collected by Maj.

Charles E. Bendire, who caught it at the post garden, on the Little Bighorn River, about $1\frac{1}{2}$ miles above Fort Custer, Montana (Merriam, C. H., North Amer. Fauna, no. 10, p. 88, Dec. 31, 1895). Since then four additional specimens of this rare mammal have come to light, all of them now being in the Biological Survey Collection. Unfortunately, none of these is a perfect specimen.

On June 23, 1896, Mr. Vernon Bailey found a dead and dried shrew in a creek valley, 7 miles southeast of Antelope, Oregon. In his field notes Bailey remarks: "It may have been killed near the creek or may have been brought from a distance, as the valley is mainly Sonoran.

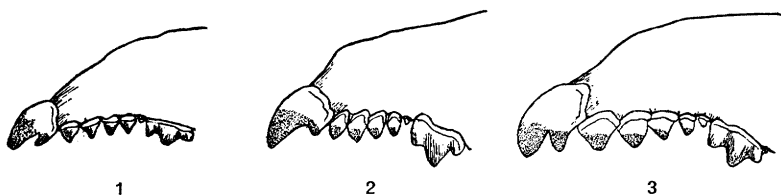


FIG. 1. LATERAL VIEW OF ROSTRUM AND UNICUSPIDS OF *Sorex personatus personatus* ($\times 6$)

No. 227410, United States National Museum, Biological Survey Collection; from Crescent Lake, Oneida County, Wisconsin.

FIG. 2. LATERAL VIEW OF ROSTRUM AND UNICUSPIDS OF *Sorex merriami* ($\times 6$)

No. 186441, United States National Museum, Merriam Collection; from Fort Custer, Montana.

FIG. 3. LATERAL VIEW OF ROSTRUM AND UNICUSPIDS OF *Sorex richardsonii* ($\times 6$)

No. 69163, United States National Museum, Biological Survey Collection; from South Edmonton, Alberta.

Perodipus tracks and holes were common all around where the *Sorex* was picked up." From this specimen, a mere fragment of skin and body which has been in alcohol, I have had the partly crushed skull removed and find it agrees well with that of the type of *Sorex merriami*, except that it seems to have been a trifle higher through the braincase.

The remains of a small shrew were found among the rocks on a high butte near Medora, North Dakota, on June 13, 1913, by Mr. Stanley G. Jewett. Some animal had killed the shrew and eaten its head, so that all available for study is the skin of the hind half of the body, the hind feet, and tail. The color indicates that the specimen is with little doubt *Sorex merriami*.

Another specimen (skin and broken skull) was secured by Mr. Edmund Heller, November 26, 1914, at Desert Ranch, 100 miles northeast of Golconda, Elko County, Nevada, where it had been caught by a house cat. The skull of this specimen is slightly larger and has a somewhat higher braincase than that of the type-specimen of *S. merriami*, but it is decidedly more nearly like this form than *S. leucogenys*.

The last specimen to make its appearance, a skin accompanied by a broken skull, was collected by Mr. George G. Cantwell, November 18, 1919, at the entrance to an old badger digging on top of a "high bunch grass hill," at Starbuck (altitude 645 feet), Columbia County, Washington. It shows no appreciable differences from the type-specimen of *merriami*.

The specimens enumerated above represent all that are to be found of these species in the larger American collections. It can be seen that we have entirely insufficient material with which to work out the relationships of the two forms. Moreover our entire knowledge of the habits of these mammals is disclosed in this brief account, the outstanding fact being that these shrews are rather aberrant in their habitat, as compared with other American members of the genus *Sorex*, in that they inhabit an arid sagebrush association of the Sonoran Zone. It is hardly probable that these little mammals are anywhere very abundant. On the other hand, in view of their extensive geographic range, it does not seem probable that they are actually as rare as the few present in collections would indicate. We are accustomed to looking for shrews in their time-honored habitats among mossy logs, along grassy streams, and in damp woods. It seems very possible that a methodical search in proper ecological associations in favorable localities, with the definite object of *Sorex merriami* or *Sorex leucogenys* in mind, might produce results.

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